

Event-by-Event Dynamical Fluctuations of K/π, p/π, and K/p in Pb-Pb Collisions with ALICE

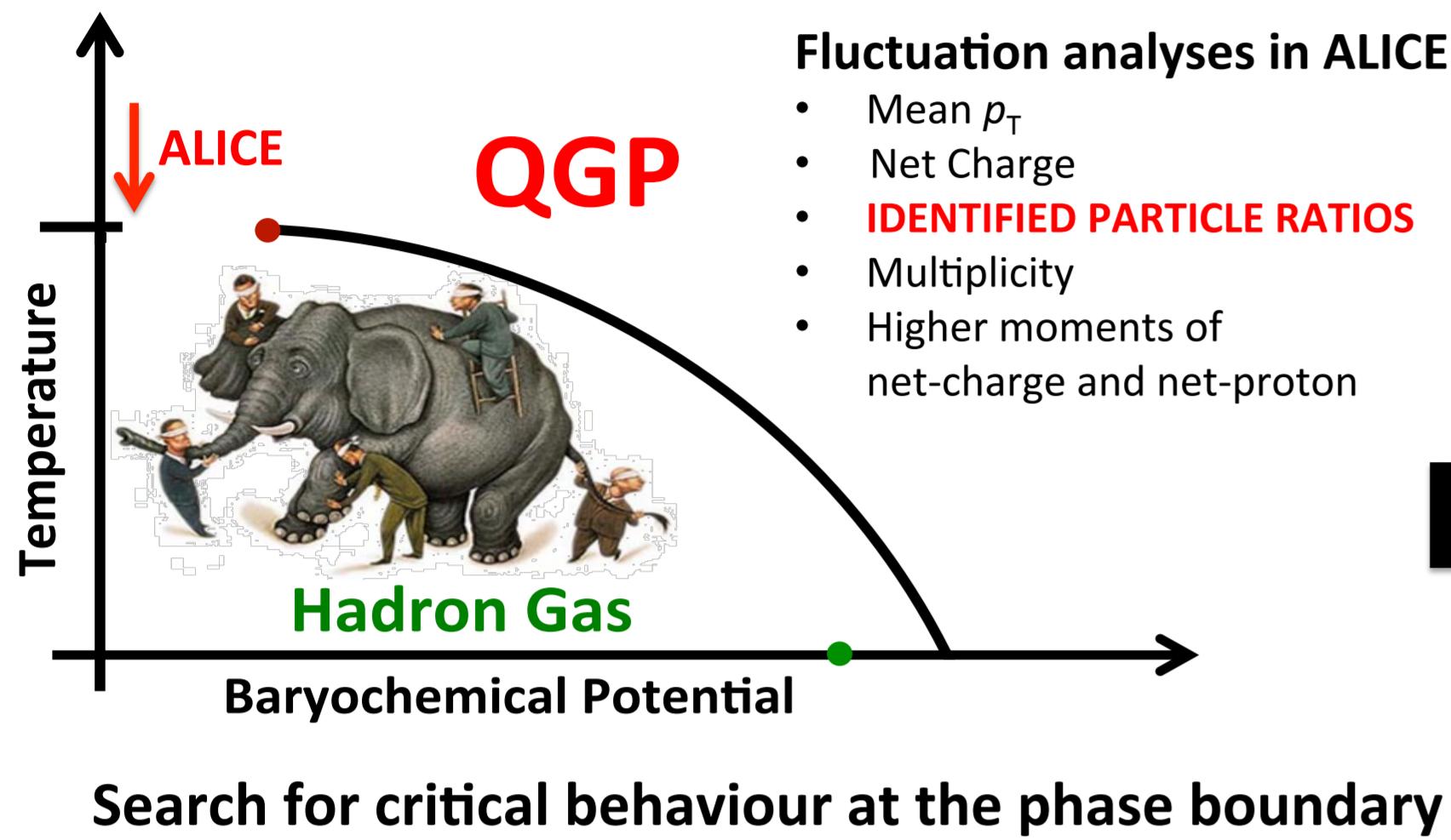


Mesut Arslanok for the ALICE Collaboration

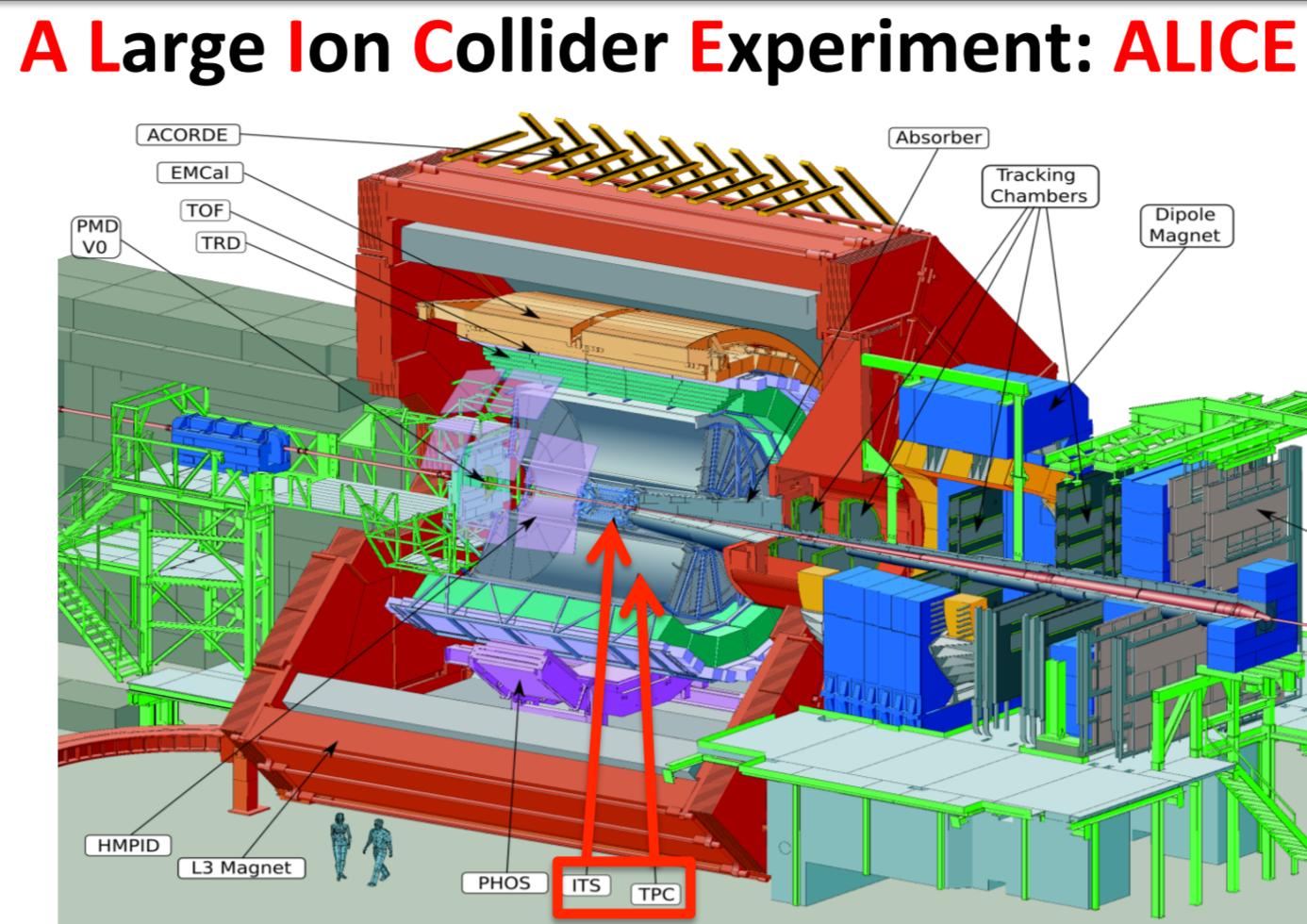
Institut für Kernphysik, Goethe University, Germany

GOAL: to pin down the properties of QCD phase diagram

What to study ?

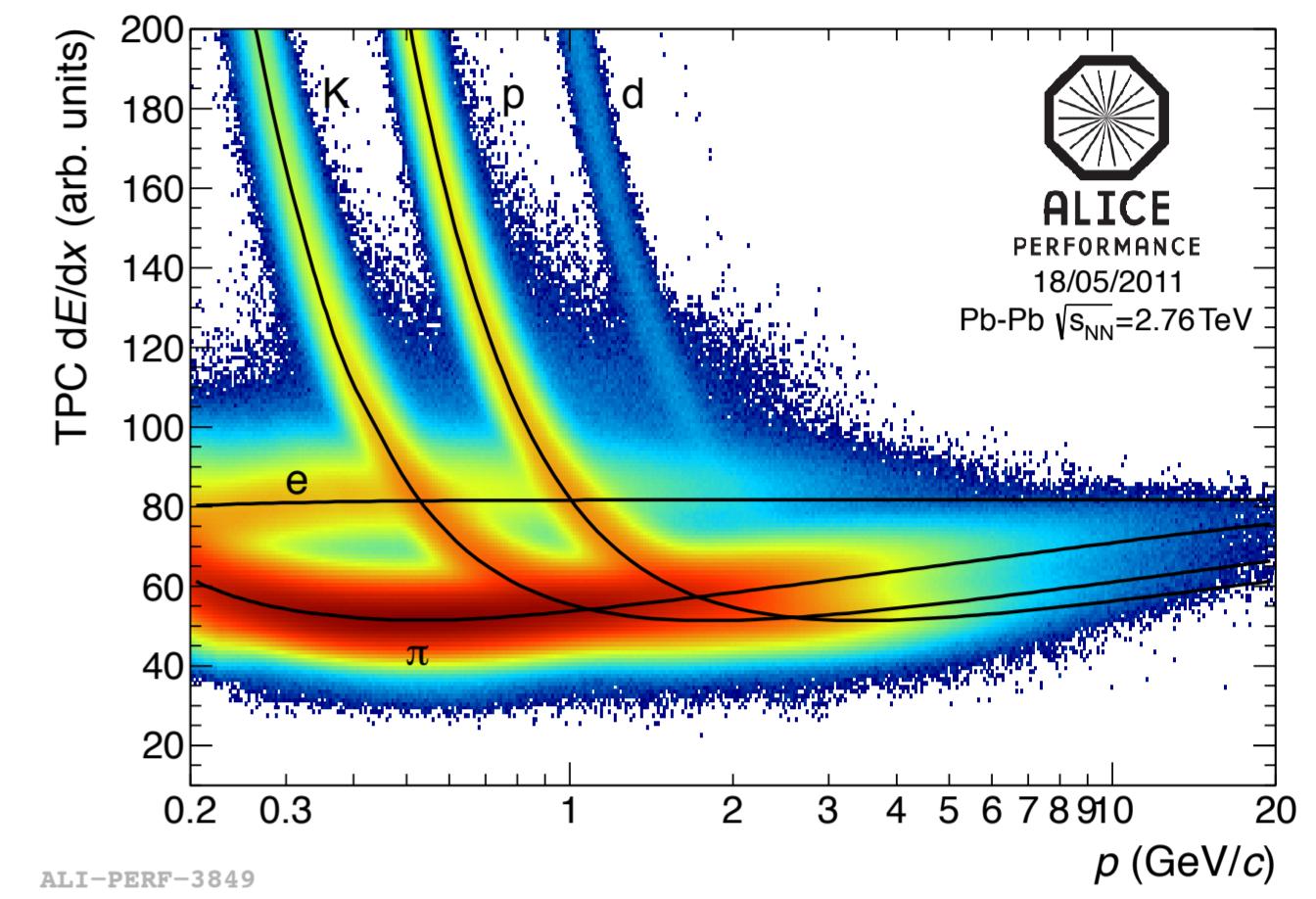


How to measure ?



Inner Tracking System (ITS) → Vertex
Time Projection Chamber (TPC) → Tracking and Vertex
Kinematic cuts: $|\eta| < 0.8$, $0.2 < p < 1.5 \text{ GeV}/c$

What is the Challenge ?



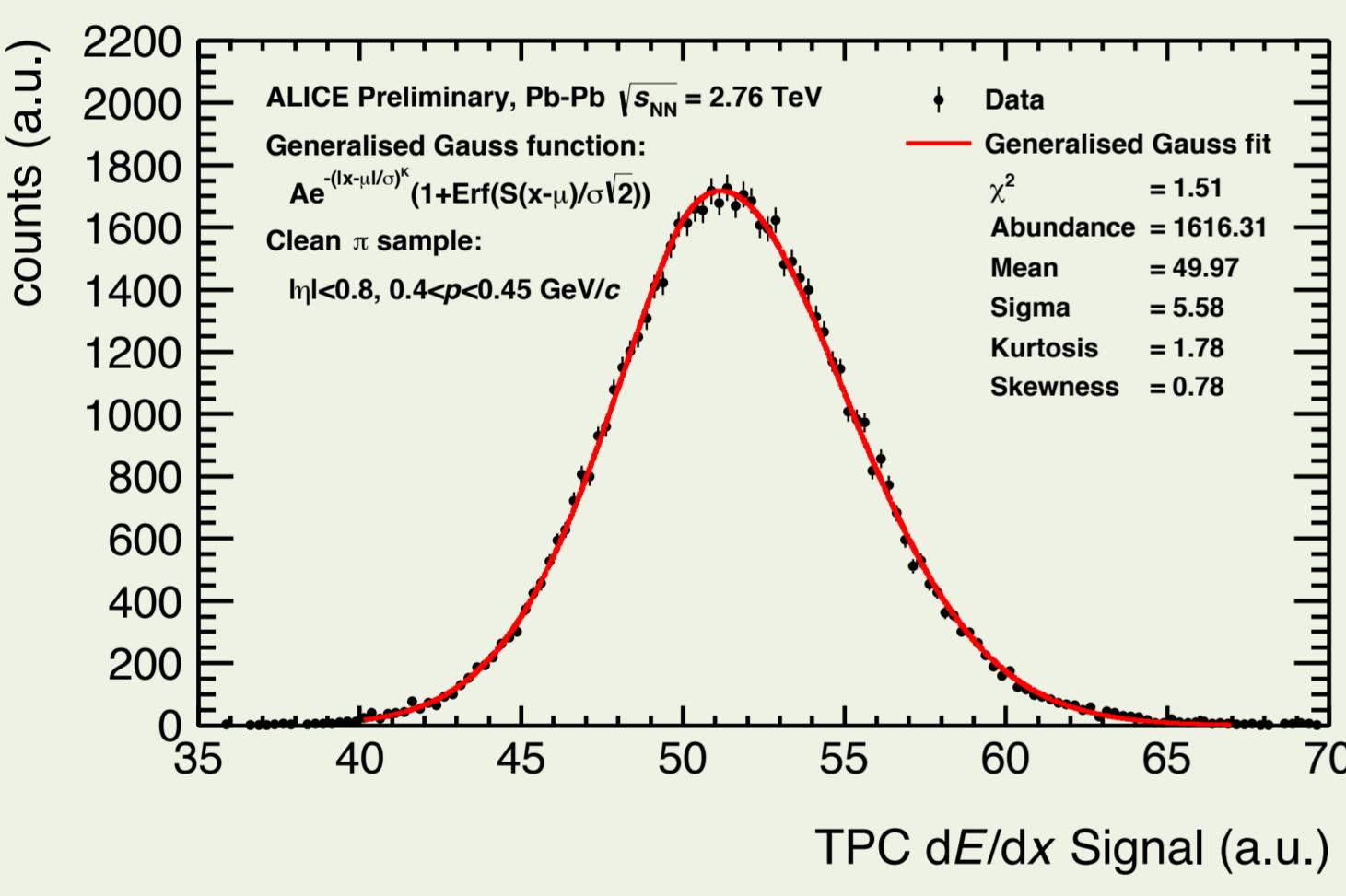
Misidentification:

Overlap regions in the inclusive spectrum of specific energy loss (dE/dx) in TPC

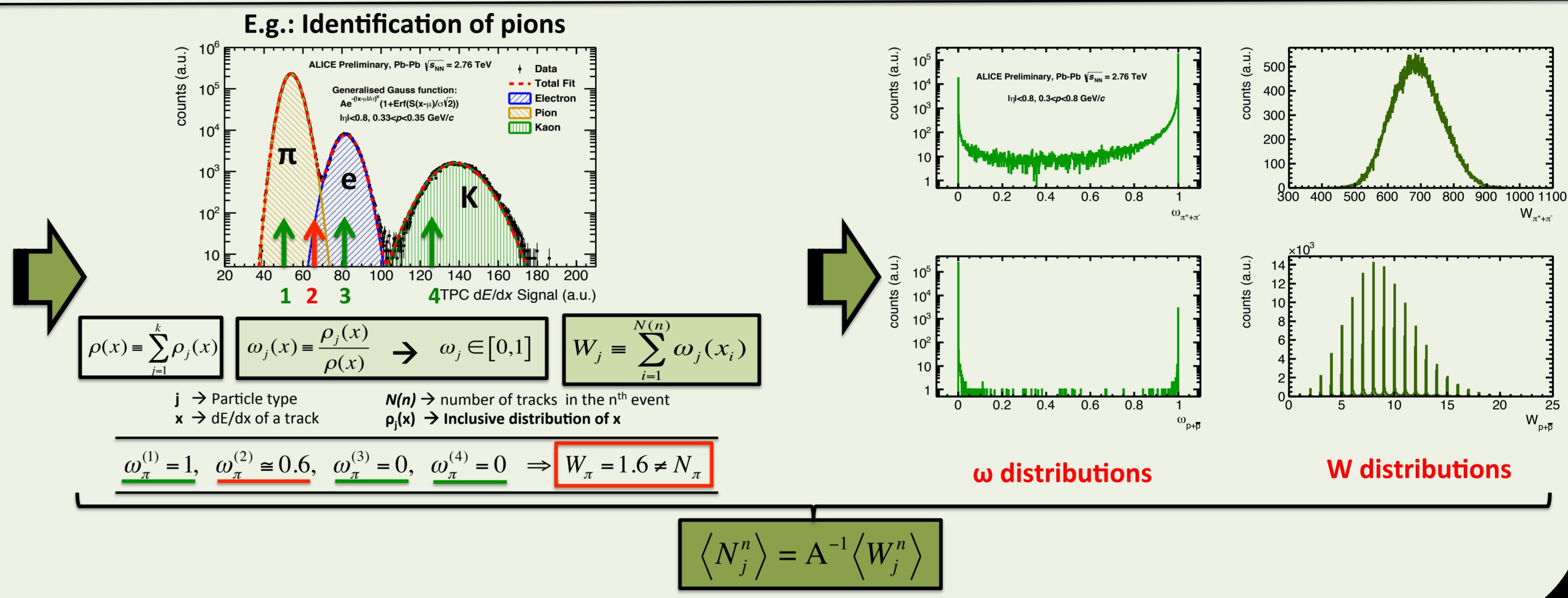
Solution: Identity Method

What does it require ?

- Good understanding of **detector response**
- Inclusive dE/dx spectrum (**only TPC**)
 - Particle IDentification (PID) down to $0.2 \text{ GeV}/c$
- No Event-by-event fits !!!**

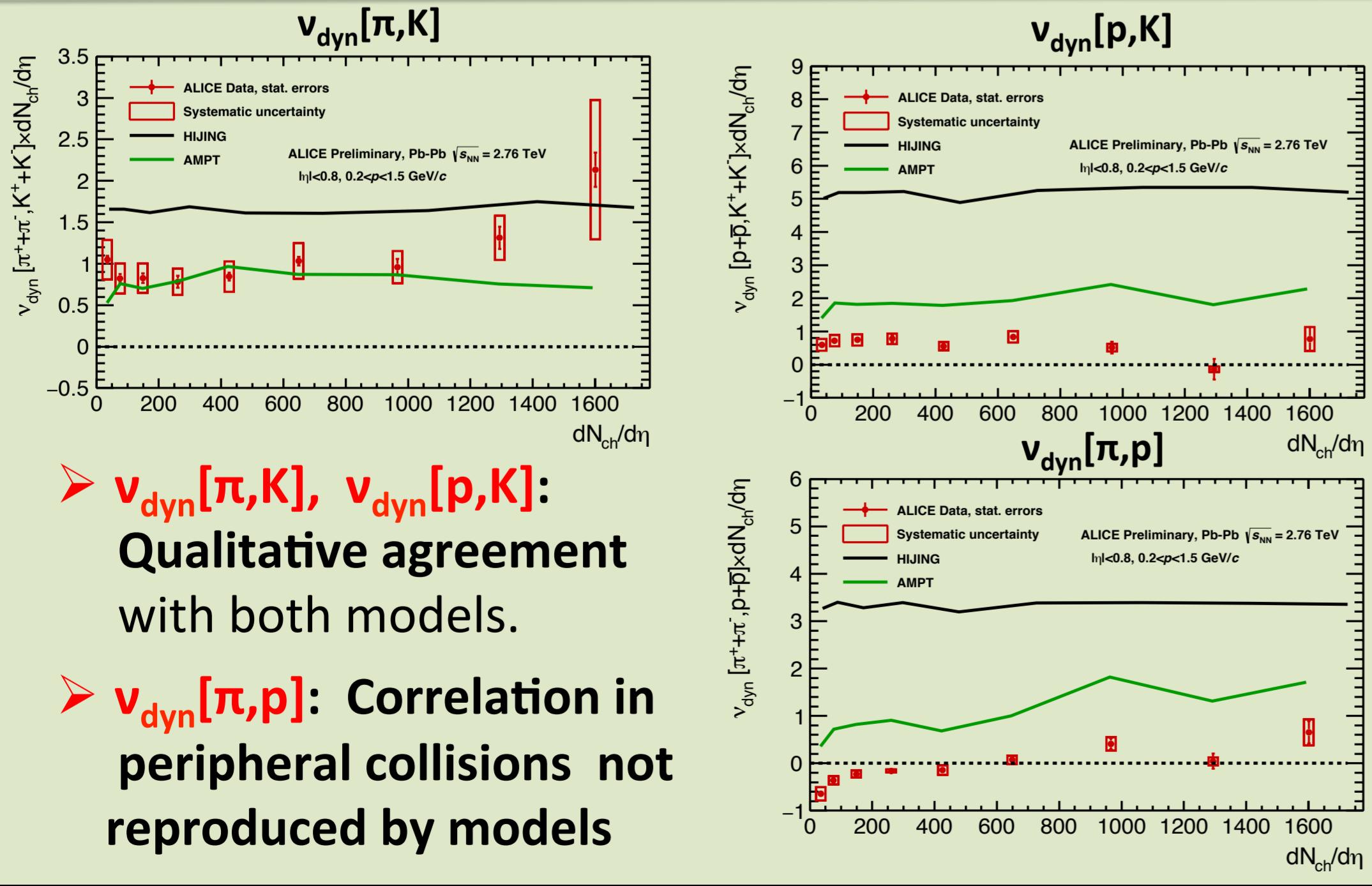


How does it work ?



What do we learn ?

N_{ch} Dependence



Energy Dependence

